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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,853	10/30/2003	Jianmin Chen	95121961.207001	1166
23562	7590	04/08/2005	EXAMINER	
BAKER & MCKENZIE PATENT DEPARTMENT 2001 ROSS AVENUE SUITE 2300 DALLAS, TX 75201			WANG, GEORGE Y	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,853

Applicant(s)

CHEN ET AL.

Examiner

George Y. Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) 27-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 60-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims 27-59 drawn to a nonelected invention. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 1-12, 14-21, 23-26, 60-70, 72-79, and 81-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aritake et al. (U.S. Patent No. 6,478,429, hereinafter "Aritake") in view of Van De Witte et al. (U.S. 5,978,055, hereinafter "Van De Witte") and Gilmour et al. (U.S. Patent No. 6,122,028, hereinafter "Gilmour").

4. Regarding claims 1-3 and 60-61, Aritake discloses a projection system (fig. 2, ref. 20A) comprising a plurality of light-producing portions (fig. 2, ref. 22) that produce modulated light of certain color spectra, a light-directing element (fig. 2, ref. 28) that receives and combines the modulated light from the light-producing portions, a projection lens (fig. 2, ref. 27) to project the combined modulated light onto a display surface, where at least one of the light-producing portions comprises a light source (fig. 2, ref. 21) to produce light, and a first panel (fig. 2, ref. 26R) to receive light from the light source.

However, the reference fails to specifically disclose a first oblique anisotropic compensation element adjacent to the first panel that is operable to provide an azimuthally averaged, improved contrast image upon the display surface relative to an uncompensated image, where the improvement to the image is relatively independent of the point of view of an observer.

Van De Witte discloses a compensation element (title) for an LCD that has a positive anisotropy (col. 5, lines 64-66).

Gilmour discloses an LCD comprising a compensation element (fig. 7, ref. 31) position adjacent to the LC panel (fig. 7, ref. 32) to provide improved azimuth-averaged contrast (col. 1, lines 10-15).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a first oblique anisotropic compensation element for an LCD that is azimuthally averaged for improved contrast image upon the display surface relative to an uncompensated image, where the improvement to the image is relatively independent of the point of view of an observer and is adjacent to the LCD panel since one would be motivated to avoid unfavorable alignment (Van De Witte, col. 2, lines 23-42). Furthermore, the inclusion of a first oblique anisotropic compensation element for an LCD that is azimuthally averaged for improved contrast image would be recognized by one of ordinary skill in the art to improve display performance, bright state efficiency, and optimized switching ability (Gilmour, col. 2, line 65 – col. 3, line 27).

5. Regarding claims 4-12 and 62-70, Aritake discloses a projection system as recited above with a second panel (fig. 2, ref. 26B) of another color, however, the reference fails to specifically disclose a second oblique anisotropic compensation element adjacent to the second panel that is configured to change a state off-normal incident light and having a positive or biaxial anisotropy and are splayed.

Van De Witte discloses a second compensation element (fig. 5, ref. 9b) for an LCD that has a positive anisotropy (col. 5, lines 64-66) or biaxial anisotropy (col. 1, lines 28-36) and where they are splayed (fig. 5, ref. 12, 12', 12'', 12''').

Gilmour discloses an LCD comprising a second compensation element (fig. 7, ref. 31) position adjacent to the second LC panel (fig. 7, ref. 32).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a first oblique anisotropic compensation element for an LCD that has a positive anisotropy and is adjacent to the LCD panel since one would be motivated to avoid unfavorable alignment (Van De Witte, col. 2, lines 23-42).

Furthermore, the inclusion of a first oblique anisotropic compensation element for an LCD that has a positive anisotropy would be recognized by one of ordinary skill in the art to improve display performance, bright state efficiency, and optimized switching ability (Gilmour, col. 2, line 65 – col. 3, line 27).

6. Regarding claims 14 and 72, Aritake discloses a projection system as recited above where the light-directing element is an x-cube prism (fig. 2, ref. 28).

7. As to claims 15 and 73, Aritake and Van De Witte disclose a projection system as recited above, however, the references fail to specifically disclose a first compensation element that is optimized for maximum azimuth-averaged contrast.

Gilmour discloses an LCD projector with a first compensation element that is optimized for maximum azimuth-averaged contrast (col. 1, lines 10-15).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a first compensation element that is optimized for maximum azimuth-averaged contrast since one would be motivated to achieve

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improvement in achromatic performance (col. 1, lines 13-15). Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Regarding claims 16 and 74, Aritake discloses a projection system as recited above where the panel is an LC panel (fig. 2, ref. 26R).

9. As per claims 17-21 and 75-79, Aritake discloses a projection system as recited above, however, the reference fails to specifically disclose a first anisotropic compensation element being a multilayer compensation element that includes polymeric LC material and a second compensation element on the same or opposite side of the first.

Van De Witte discloses a first anisotropic compensation element (title) being a multilayer compensation element (fig. 5, ref. 9a, 9b) that includes polymeric LC material (col. 1, lines 56-60) and the first and second compensation element on the same side of the first panel (fig. 1, ref. 9a, 9b).

Gilmour discloses an LCD projector where the first and second compensation element are on the opposite side of the first panel (col. 6, lines 61-65).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a first anisotropic compensation element being a multilayer compensation element that includes polymeric LC material and a second compensation

element on the same or opposite side of the first since one would be motivated to avoid unfavorable alignment (col. 2, lines 23-42). Furthermore, one of ordinary skill in the art would be motivated to improve display performance, bright state efficiency, and optimized switching ability (col. 2, line 65 – col. 3, line 27).

10. As per claims 23-26 and 81-84, Aritake and Gilmour discloses a projection system as recited above, however, the reference fails to specifically disclose a first panel and a first anisotropic compensation element on a common substrate where the first panel is a substrate and the first compensation element has a tilt angle of 0-50° and splayed relative to the first panel.

Van De Witte discloses a first panel and a first anisotropic compensation element on a common substrate (fig. 1, ref. 4) where the first panel is a substrate and the first compensation element has a tilt angle of 0-50° (col. 6, lines 21-24) and splayed relative to the first panel.

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a first panel and a first anisotropic compensation element on a common substrate where the first panel is a substrate and the first compensation element has a tilt angle of 0-50° and splayed relative to the first panel since one would be motivated to achieve improvement in gray-scale inversion and to minimize axial symmetry (col. 6, lines 25-33). In addition, one would be motivated to avoid unfavorable alignment (col. 2, lines 23-42) and to improve display performance, bright state efficiency, and optimized switching ability (col. 2, line 65 – col. 3, line 27).

11. Claims 13 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aritake, Van De Witte, and Gilmour, in view of Sonehara et al. (U.S. 5,105,289, hereinafter "Sonehara").

Aritake et al. discloses a projection system as recited above, however, the reference fails to specifically disclose a micro-lens array adjacent to first panel.

Sonehara discloses an LCD projector with a micro-lens array adjacent to first panel (fig. 15, ref. 1504, 1505, 1506).

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a micro-lens array adjacent to first panel since one would be motivated to reduce light loss, improve productivity and reliability, and optimize chromaticity (col. 3, lines 23-42).

12. Claims 22 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aritake, Van De Witte, Gilmour, and Sonehara, in view of Sekiguchi (U.S. 5,798,864).

Aritake et al. discloses a projection system as recited above, however, the reference fails to specifically disclose the first oblique anisotropic compensation element on the low f-number side of the micro-lens array.

Sekiguchi discloses a projection display where an oblique anisotropic compensation element is on the low f-number side of the micro-lens array

It would have been obvious to one ordinary skill in the art at the time the invention was made to have a micro-lens array adjacent to first panel since one would be motivated to reduce light loss, improve productivity and reliability, and optimize chromaticity (col. 3, lines 23-42).

Response to Arguments

13. Applicant's arguments filed January 25, 2005 have been fully considered but they are not persuasive.

Applicant's main argument is that the prior art of record fails to specifically disclose the claimed invention, namely "the oblique anisotropic compensation element operable with the projection lens to provide an azimuthally averaged, improved contrast image upon the display surface relative to an uncompensated image, where the improvement to the image is relatively independent of the point of view of an observer." However, Examiner disagrees. First, it has been held that the recitation that an element is "adapted" or "operable" to perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138. Even if the limitation has patentable weight, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Furthermore, the limitation "to provide an azimuthally averaged, improved contrast image..." appears to be a generic improvement that any oblique anisotropic

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compensation element would provide. The fact that Applicant has failed to indicate the specific improvement in the “azimuthally averaged, improved contrast” renders the limitation ineffective. And even if such an improvement is patentable and not generic, the Gilmour reference clearly indicates that an improved azimuth-averaged contrast (col. 1, lines 10-15) improves achromatic performance (col. 1, lines 13-15).

While Applicant also argues that there is a lack of suggestion or motivation to combine the secondary references to the primary Aritake reference, Examiner clearly points to the motivations provided in the Van De Witte and the Gilmour references to respectively avoid unfavorable alignment (Van De Witte, col. 2, lines 23-42) and to improve display performance, bright state efficiency, and optimized switching ability (Gilmour, col. 1, lines 13-15, col. 2, line 65 – col. 3, line 27). Again, Applicant’s arguments to these motivations hinge on the ability of the compensation element’s ability to improve azimuthally averaged contrast, Examiner notes that such arguments are not persuasive since Applicant does not describe what such “improvement” it actually details. Moreover, such a limitation is not given patentable weight for the reasons discussed above.

As a result, Examiner holds to the validity of the references used and maintains rejection.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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April 4, 2005



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